YOUR NEWSLETTER WITH THE LATEST IN RADIATION SAFETY

# THE RADCO REGISTER

VOLUME 11, No. 3

JULY 2001

A CECOM RADIATION SAFETY NEWSLETTER FOR THE US ARMY NATIONAL GUARD

DIRECTORATE FOR SAFETY
US ARMY, CECOM
Safe by Design

## *Your STATE and LOCAL RADIATION SAFETY OFFICERS (RSO) are:* *(fill-in)*

**SRSO:**_____ **Phone:**_____

**ASRSO:**_____ **Phone:**_____

**LRSO (CSMS):**_____ **Phone:**_____
**LRSO (USP&FO):**_____ **Phone:**_____
**LRSO (MATES):**_____ **Phone:**_____
**LRSO (AASF):**_____ **Phone:**_____


## *IN THIS ISSUE :*



The distribution and content of this newsletter is directed to Army National Guard activities for which the U.S. Army Communications-Electronics Command (CECOM) Directorate for Safety, Radiological Engineering Division, serves as RSSO. The RADCO Register is published quarterly and is intended as a medium for the exchange of radiation safety information between the National Guard Bureau and CECOM. The primary distribution of this newsletter is to Occupational Health/State Safety Offices, U.S. Property & Fiscal Offices and Combined Support Maintenance Shops, with local reproduction encouraged.

**Visit us on the WEB:**
www.monmouth.army.mil/CECOM/safety

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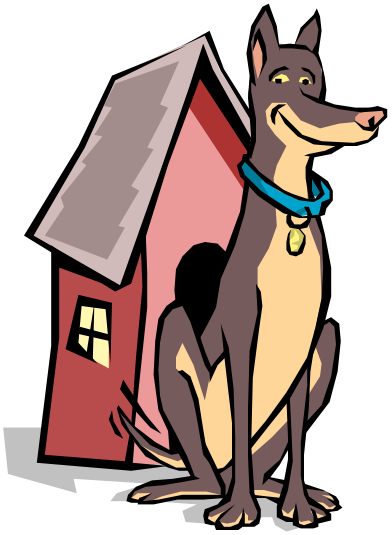
# ON GUARD…



## New Watchdog on the Border

Coming soon to a border checkpoint near you: The Mobile VACIS.

Just what we need, another acronym to add to the Army library! We can all envision the mobile part, however, what is a VACIS? VACIS is an acronym for "**V**ery radio**A**ctive **C**esium **I**n **S**ide". Not really, but the VACIS does contain a 1.6 Curie Cesium-137 Source. The true meaning of the acronym VACIS is "**V**ehicle **A**nd **C**argo **I**nspection **S**ystem".

The mobile VACIS is used for non-intrusive examination of cargo containers and vehicles for contraband (drugs). It is destined for Border States and port of entry states. So what does that mean? You might even see one in Idaho! (Especially if someone starts trying to smuggle in potatoes ☺)

Safety requirements for this device are described in its Sealed Source Device Registration. Some key safety requirements for the use of the device include:

- Two operators
- Establishment of radiation exclusion zone with postings
- High radiation area postings
- Manufacture provided operator training


- Security of the gauge
- Testing of warning devices prior to use
- Annual leak testing of the sealed source

For something with "**V**ery radio**A**ctive **C**esium **I**n **S**ide" a person inadvertently scanned inside a cargo container (if the device were used properly) would receive no more that 0.005 mrem. Not to say that the device doesn't pack some power. At a foot away, in front of the source, the dose rate is as high as 2600 mR/hr on contact and 650 mR/hr at a foot away.

CECOM is currently amending its NRC license for the possession and use of these devices by the ARNG and U.S. Army worldwide.

We have requested that the NRC expedite the processing of this license amendment as there is an immediate need to deploy a mobile VACIS overseas. We will notify you folks in the field when we get our hands on that new "dog" license! ★

## Sending Out your SM-400A!

'O where 'O where do I send my little ion chambers….. O' where O' where can that be?

If you've been looking to send out your SM-400A and Electronic Pocket Dosimeters (EPD) for calibration, but are unsure where they go. ...look no further. The answer can be found just off the Garden State Parkway (Exit 105) in NEW JERSEY, ….home to the CECOM DS Radiation Calibration Facility!

In the past there was a little confusion as to where to send your LORAD Survey Instruments. Well, we're here to tell you that yes, we are authorized to do these calibrations and yes, we'll perform the calibrations right here in our lab.

The procedure for shipping these instruments is the same as with all the others you have sent to us in the past. If you haven't had the pleasure of sending us instruments in the past, contact Nick in our Calibration Facility (contact info on page 2), for the required procedures.

Since the SM-400A has a dedicated radioactive check source you must comply with all applicable transportation requirements. We provided these requirements to you in the last RADCO, dated April 2001. So, reach deep into your filing cabinet and pull out that RADCO file. The April issue should be sitting there, right between those empty candy wrappers. If you did not receive a copy go to our website at http://www.monmouth.army.mil/cecom/safety/RSERVICE/RADCO.HTM or give us a ring. We'll be sure to get one to you.

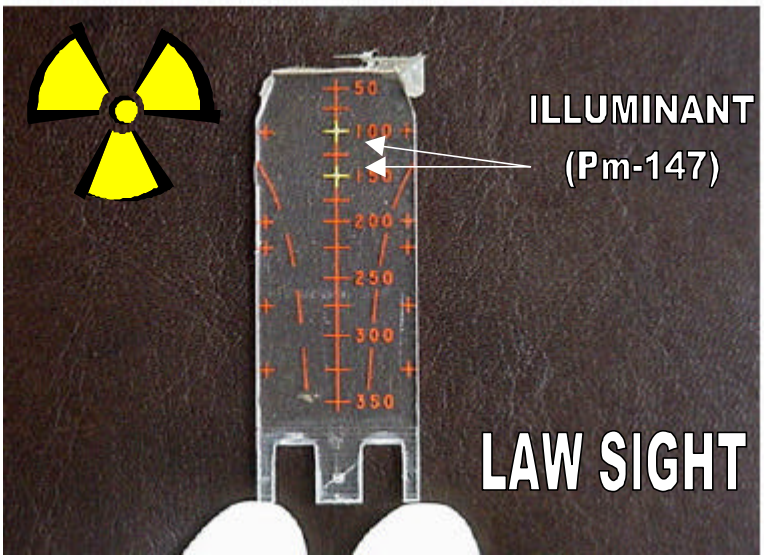

When you receive your SM-400A back from calibration it will have a one-year calibration interval assigned. (Isn't life great) It is possible to have a one year interval since each instrument has been provided a check source to perform a response test prior to each and every use of the instrument. ☆

## Light Anti-Tank Weapon Aiming Sights!!.... (A SIGHT for SORE "G" I's)

Older versions of the shoulder fired Light Anti-tank Weapon (LAW) contain radioactive promethium-147 (Pm-147) in the front aiming sight. The older models with Pm-147 are the M72, the M72A1, and the M72A2. Later models, beginning with the M72A3 do not have radioactive material. The markings on non-radioactive LAW sights are in red only. Aiming sights containing Pm-147 will have a white or yellow cross-hair at the 100 and 150-meter markings.

After training, soldiers must turn–in their expended LAWs to the installation ammunition supply point (ASP). Even if soldiers are directed to remove the front aiming sight from expended LAWs after training, it is the responsibility of ASP personnel to ensure all Pm-147 sights are removed.

After removal from the launch tube, place your Pm-147 sights in a clear plastic sealable bag. Contact your installation RSO when you're sights are ready for disposal…..and always wash




your hands after handling the Pm-147 LAW sights.

National Guard SRSOs must submit disposition requests to us here at CECOM. The RSOs at other MSC or MACOM installations should contact the US Army Operations Support Command (OSC).

Our CECOM POC is Ms. Alice Kearney, DSN 992-9723, commercial (732) 532-9723, Email: Alice.Kearney @mail1.monmouth.army.mil

The OSC POC is Mr. Kelly Crooks, DSN 793-0338 or 2989, commercial (309) 782-0338, Email: amsos-sf@osc.army.mil

Remember, proper handling and disposal of the Pm-147 sight is not only an Army requirement….it's the LAW!

***We stand corrected:***

In the last RADCO Register, dated 01 April 01, we identified that 3.7E6 Bq or more of Pm-147 requires posting. Although this quantity is correct, Pm-147 LAW Sights are **NOT** to be posted with a **Caution – Radioactive Materials Placard**. (A recent amendment to the TACOM-RI NRC License no longer requires these sights be posted as a radiological storage area.)

## Did Someone Say "SURVEY" ?!?

Yes, if you are storing radioactive materials you may be required to perform radiation surveys. Storage areas are generally located at support/ maintenance facilities, such as the USPFO, CSMS, and the MATES. Some units, such as field artillery batteries that own and store Tritium Fire Control Devices, require surveys to be performed, as well. We bring this to your attention because it is during our program evaluations that we can guarantee someone will be heard to mutter the words *"Can I see your surveys?"*

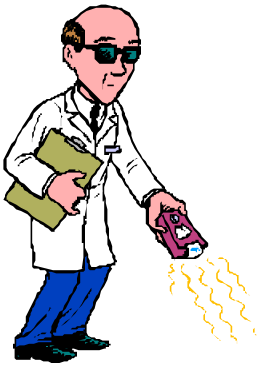
What do we mean when we say "survey?" Surveys consist of either a radiation survey performed with an AN/PDR-77 or AN/VDR-2 with the beta-gamma probe, and/or a contamination survey performed by taking surface area wipes within the storage area. Areas containing only alpha emitters and tritium sources need only perform a contamination survey.

Surveys are performed to ensure the health and safety of personnel working in and around the area and to ensure there has been no uncontrolled release of radioactive material. When

considering surveys, you should be asking yourself ….am I taking sufficient dose rate measurements and wipes to obtain adequate results… and what do these results tell me? If the survey is properly performed the results will give you a good idea of what the radiation dose rates and/or contamination levels are in and around the storage area.

OK, what is the proper way to perform these surveys? Well… here's the skinny for all you aspiring Radiation Safety Officers out there.

## Performing a Radiation "Dose Rate" Survey:



Prior to taking any "dose rate" survey readings think about what you want to accomplish. A proper radiation survey will provide you the following information about your storage area:

**1**. The maximum radiation level within the storage area (but not directly on top of the radioactive source.)

**2**. The radiation dose rate at the entrance to the area.

**3**. The radiation dose rate nearest to the source that a worker may have access to.

**4**. The radiation dose rates on the exterior sides of the storage area.

**5**. The radiation dose rate at the nearest occupied area or room (if applicable).

**6**. The background radiation dose rate outside the storage area.


These **six** items cover the minimum number of readings you should take. Good practice is taking enough measurements to demonstrate that the radiation dose rate profile in the area is known along with the radiation dose rates on the exterior.

Now when someone in your unit says "*dose rate survey*," we're clear on what needs to be done. Next RADCO we'll discuss how you should be documenting your surveys. ★

## Don't Worry... Be "DECON" Happy

The good folks at CECOM have developed new written decontamination (DECON) instructions for equipment, radioactive storage areas, and equipment maintenance areas that inadvertently become contaminated with radioactive material. Don't worry, these instructions will be sent to your State RSO shortly and will be available to you if the need to DECON arises. Should your quarterly survey wipes be in excess of the contamination guidelines listed in AR 11-9, we will also enclose the new DECON instructions along with the memorandum containing your results.

As you may know, we telephonically report the analysis results to you prior to mailing the memorandum. During the FONECON, let us know if you would like a faxed or electronic

copy of the DECON instructions to get a head start on your DECON operations. Contact Nick Antonelli at our laboratory if you want a copy of the new DECON instructions ……and get "DECON" happy. ☆

## "You Must Remember This"....

"You must remember this…a kiss is just a kiss …a sigh is still a sigh"

..and a Form is but a Form… unless it's the ***NRC Form 5.***

As we've told you in the past, the ***NRC Form 5***, **"**Occupational Exposure Record for a Monitoring Period." must be provided to each individual in your dosimetry program. You should have recently received this form in the mail from the AIRDB.

The *NRC Form 5* is a record of the cumulative exposure for the previous calendar year for each worker enrolled in your dosimetry program. To prove that you have provided each person with his or her own copy, we recommend that you have each individual write on the *NRC Form 5*, "I have received a copy of this Form."

After the individual signs and dates the NRC Form 5, retain a copy for your records and give a copy to the individual. Then the next time your Dosimetry Program is reviewed by us, you'll be donning a "big smile" as you hand us a copy of the signed Form.

Soooo… "you must remember this… a kiss is just a kiss… a sigh is still a sigh." But an unsigned NRC 5 Form adds up to a deficiency in your RSP. ☆

## .....in the field

**by Lyle Farquhar**


"I THINK I FIGURED OUT WHERE THOSE GARRISON CAPS WENT !"

# PUZZLES & BRAIN-TEASERS

## QUICKIE QUIZ:

1. Situation: You are shipping an AN/UDM-2 RADIAC Calibrator set to Redstone Arsenal for calibration. Within 24 hours of the shipment you are required to notify:

a. TACOM & Redstone
b. SBCCOM & CECOM
c. CECOM & Redstone
d. TACOM & CECOM

2. The licensee for the M43A1 CAD, CAM, ICAM and the ACADA is:

a. U.S. NRC
b. U.S. Army SBCCOM
c. U.S. Army CECOM
d. U.S. Army TACOM

3. Situation: You have been tasked to set up a non-ionizing radiation safety program. After you consult AR 11-9 and NGR 385-11 for program directives, you should refer to TB_____ for specific information concerning CECOM RF and Optical radiation producing systems.

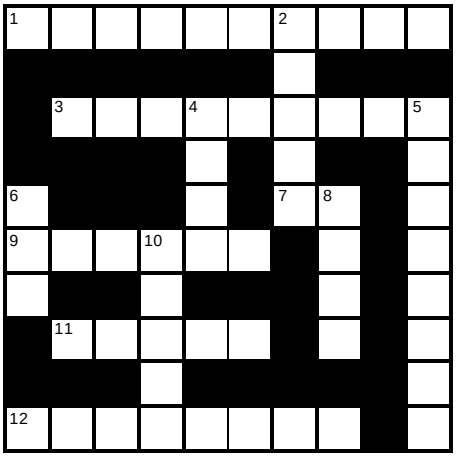
a. 43-0137
b. 43-0116
c. 43-0255
d. 43-0133

4. The M22 ACADA contains the radionuclide:

a. Nickel 63
b. Cesium 137
c. Krypton 85
d. Cobalt 60

5. Given the following radionuclides:
Th-232 with a total activity of 2.96E06 Bq; and Ra-226 with a total activity of 3.5E04 Bq. Are you required to post the storage room with a "Caution Radioactive Material" sign?

YES or NO

### Across:

**1. TACOM-_____ holds the NRC License for H-3 Fire Control Devices**

**3. SRSOs are required to attend eight hours of _____ training**

**7. One type of Non-Ionizing Radiation**

**9. Holds the NRC License for the CAM, CAD, ICAM and ACADA**

**11. Army Command that oversees the LORAD Non-Destructive Testing Device**

**12. CECOM is located here**

### Down:

**2. A type of non-ionizing radiation**

**4. ACRONYM that replaced RCO (Radiation Control Officer)**

**5. A term for radioactive material that is no longer wanted**

**6. The Army Command that oversees 5 DOWN**

**8. NRC FORM _____ is a record of annual radiation exposure**

**10. The Army Command that holds the NRC license for the AN/UDM-2**

***...the answers are on the last page!!***

# NONIONIZING CORNER .....

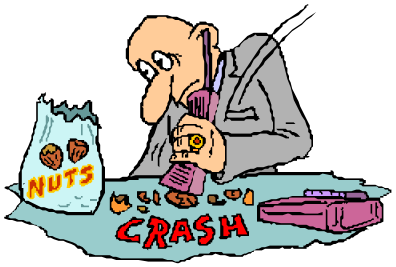
## Your NON-IONIZING RADIATION SAFETY PROGRAM Got You in a Bind....? Try using a Bind...(er)!!

Last time we shared some of the things that can be done to begin setting up a Non-Ionizing Radiation (NIR) Safety Program for your state, installation, maintenance shop or facility. We recommended that you start by creating your own ***NIR producing systems/items inventory***. So you've done that…. Right? O.K., I hear ya'…. you're still working on it!

If you're not sure how to generate an inventory, don't give up yet! An easy way to proceed is to copy or print out the applicable pages from our TB 43-0133 that apply to your state's NIR inventory listing. This can be done by searching your state's property book records using the LINs listed in App. D of the TB. We recommend keeping the RF and the optical/laser producing items listed separately. Place each into separate sections of a 3-ring binder.

For now, let's refer to this 3-ring binder as our ***NIR Safety Binder***. Arrange the information alphabetically/ numerically for fast and easy reference. Put this collection at the rear of the binder in it's own section. Place the RF and Laser/Optical device inventories in their own separate sections in that same 3-ring binder. You'll notice, some of the systems/items may be in both the RF and the laser/optical sections because they have both RF and laser hazards associated with them.

Now, if you or someone else needs to know what NIR safety information applies to a given NIR producing item (that is on your state's inventory), all that you/they would need to do is to refer to your NIR Safety Binder. The binder will be the first place to look for an NIR producing item and it will permit fast access to NIR safety information in case of an NIR exposure incident or accident.




Remember: You don't have to be a State Radiation Safety Officer to get crackin' on your inventory…this approach would certainly apply to the individual maintenance shop or installation safety personnel as well. You'll find TB 43-0133 at: www.monmouth.army.mil/cecom/safety/RPUB/TB430133.HTM


## TOP TEN EXCUSES WHY A RADIATION SURVEY was MISSED... as told to us DURING our STATE RSP EVALUATIONS:

**#10** You mean to tell me we've been sending them wipes to the wrong address all this time?

**#9** Your last inspector told us we didn't have to do 'em!!

**#8** We use an Arabic calendar in the shop and it has thirteen months.

**#7** Yeah, I know they're overdue..... but it's hunting season.

**#6** Someone hijacked our storage CONEX... but we heard they may have found it in Mexico.

**#5** Yeah, I know they're overdue.... but it's fishing season.

**#4** Smear papers??? Why I thought those were rolling papers!!

**#3** ***I've fallen'*** (over my MC-1) ...***and I can't get up***!!!

**#2** Our LRSOs all voted, and if it's any consolation, we've informed the SSG who missed the survey – "**You ARE the WEAKEST LINK....GOOD BYE!"**

.....and the **#1** EXCUSE WHY a RADIATION SURVEY was MISSED (as told to us during an Evaluation) is:

**#1** We've been having a drought this summer and we ran out of water to wet the wipe!!!

But seriously folks, not only are surveys a requirement of AR 11-9 and federal law, a well organized surveillance program, which includes conducting those quarterly surveys of storage areas ON TIME, is a good indication of a well managed and effective state RSP. So avoid making our **TOP TEN** list… and keep those surveys current!! ☆

## *QUICKIE QUIZ SOLUTIONS:*

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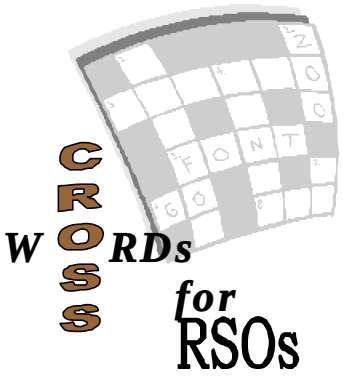


***SOLUTIONS:***

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| C | ■ | ■ | E | ■ | ■ | ■ | V | ■ | A |
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